

Fig.2

FILM NAME	MATERIALS	CONDUCTIVE TYPE	DOPANT	CARRIER CONCENTRATION (cm ⁻³)	FILM THICKNESS (nm)
EMITTER FILM 6	InP	n	Si	4~20×10 ¹⁸	250
BASE FILM 5	InGaAs	p ⁺	Zn	4×10 ¹⁹	50
COLLECTOR FILM 4	InGaAs	n	Si	5×10 ¹⁶	500
SUBCOLLECTOR FILM 3	InGaAs	n ⁺	Si	1×10 ¹⁹	300

Fig.3

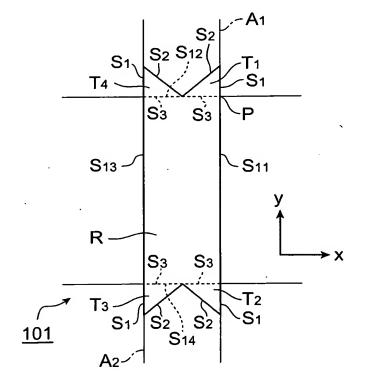


Fig.4

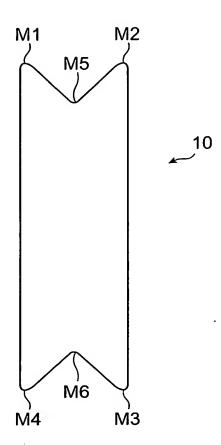
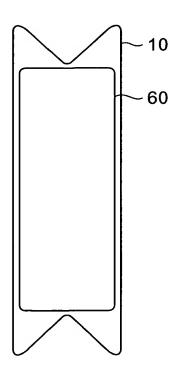
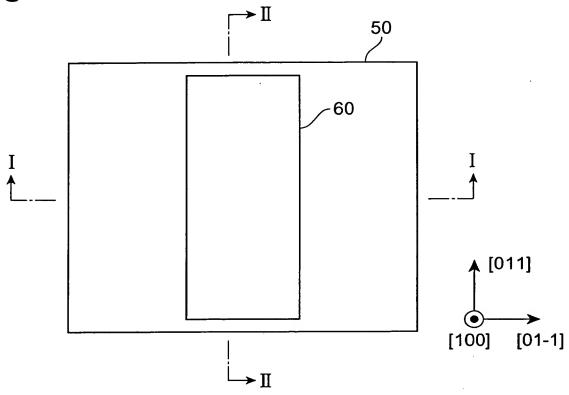


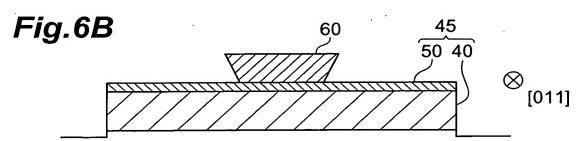
Fig.5

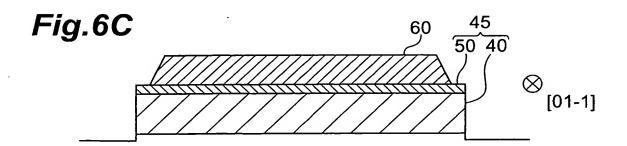


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Fig.6A







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Fig.7A

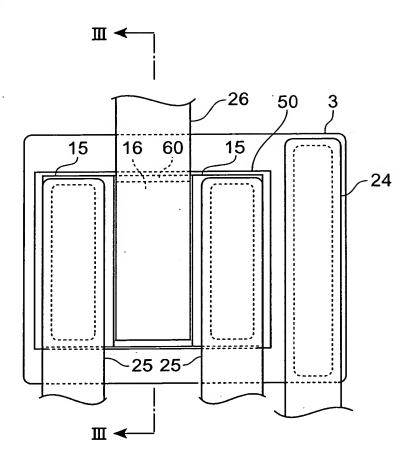
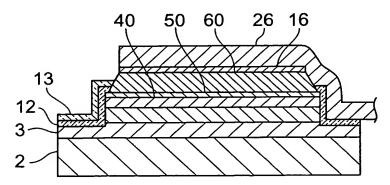


Fig.7B



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Fig.8B

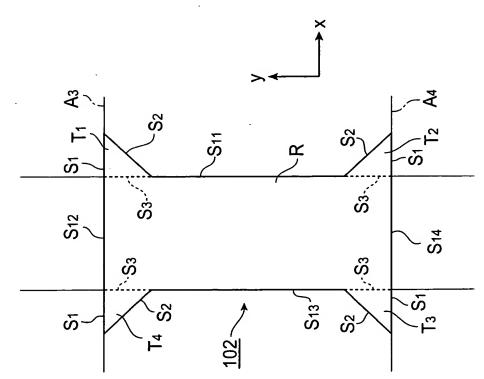
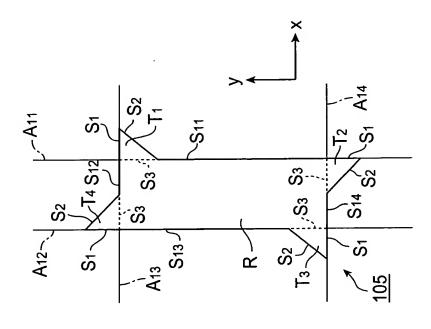


Fig. 9A



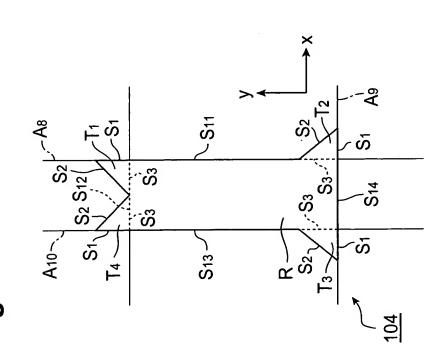


Fig.10

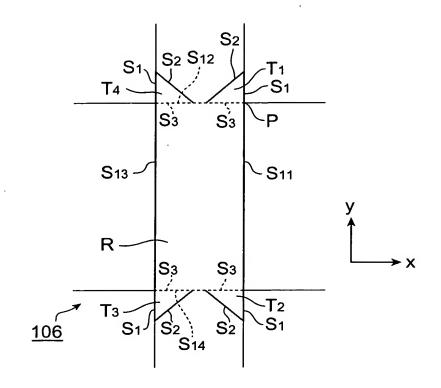


Fig.11

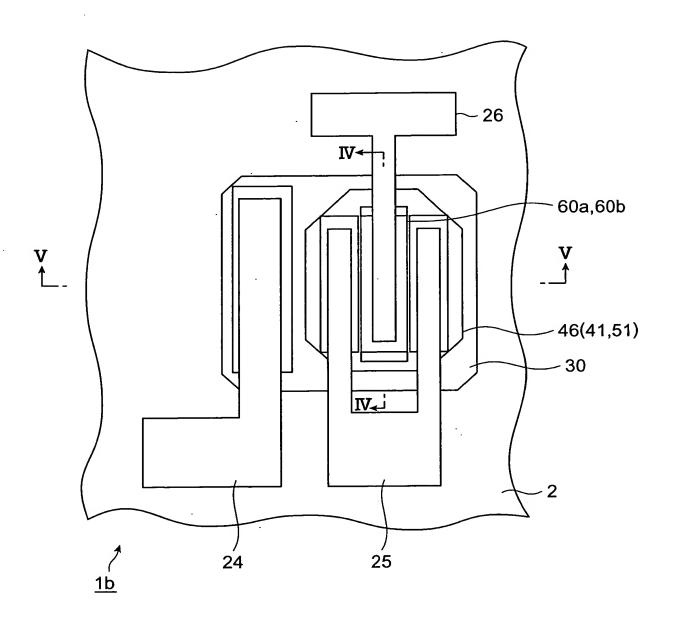


Fig.12A

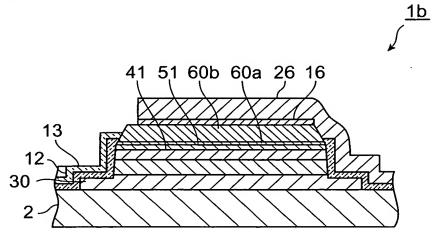
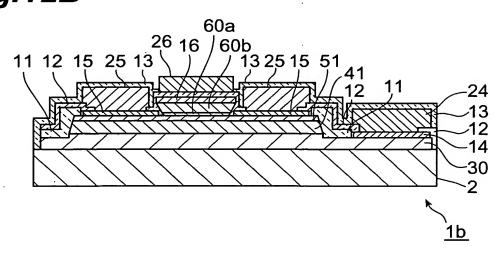


Fig.12B





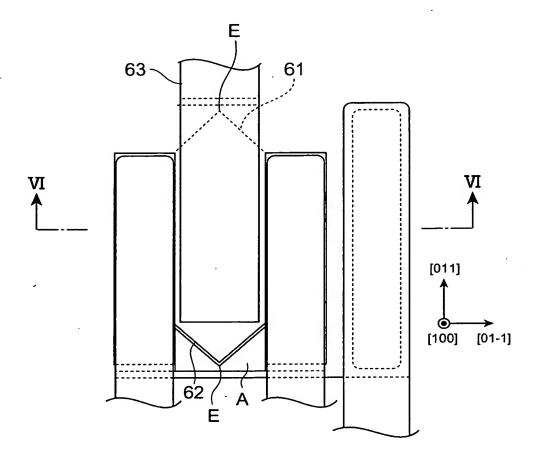


Fig.13B

